Year in Review 07-08

Complex transformation, PEIS

Looking to the future, NNSA announced just before the holidays its preferred alternative for transforming the nuclear weapons complex. In that announcement, NNSA first and foremost confirmed that Los Alamos is a national security science laboratory—one where we use our interdisciplinary excellence in experimental, theoretical, modeling and simulation, and engineering science, especially in materials, to provide innovative and responsive solutions to the broad spectrum of national security challenges. In particular, NNSA is assigning three centers of excellence to LANL:

nuclear weapons design and engineering, where we provide the fundamental science-based understanding of nuclear weapon physics and engineering performance, safety and security;

plutonium research, development, and manufacturing, where we expand and use our excellence in actinide science and will have the capability to manufacture between 50 and 80 pits per year; and

supercomputing, where we will maintain for NNSA the world's best simulation capabilities.

Through this process, NNSA will transform the complex into a smaller and more responsive enterprise consistent with the security challenges of the 21st century. NNSA predicts this will result in a 20 percent reduction in our core mission at LANL over time. We expect NNSA to issue the draft supplemental Programmatic Environmental Impact Statement (PEIS) this month, and to hold public hearings, including several in New Mexico, where we and other members of the community can all express our views.

Additional opportunities for the future

As we solidify our essential national roles in our core mission area, there are other exciting opportunities to bring our interdisciplinary

excellence to bear for innovative solutions to the< grand challenges facing our nation. There have been numerous examples this year. One of particular note is the Roadrunner supercomputer where we and IBM turned skeptics into supporters of this new technology approach to supercomputing. We also see other opportunities. We will continue to grow our role as a provider of choice for many of the nation's intelligence community science-based challenges and we are growing our nonproliferation programs in areas such as: building instrumentation for several new satellites; developing safeguard technologies for nuclear materials; and developing other sensor, information science, and materials technologies to mitigate the spread of weapons of mass destruction. LANL will also be a key player in providing solutions to the tremendous challenge of energy security, especially through energy storage solutions, developing and evaluating new materials, and assessing economic and environmental impacts of decisions about energy choices. All our programs are built on our scientific infrastructure, where our focus is on attracting and retaining top scientific talent and providing them the tools to succeed. MaRIE is our proposed signature experimental facility to understand matter-radiation interactions in extremes and translate that into real program solutions. We are refining this facility concept through internal workshops and in concert with DOE and the external science community as well as our external advisory committee. MaRIE was identified in the NNSA PEIS as a magnet science facility. We are engaging NNSA for final approval to proceed with the new science park complex with unclassified and classified office and light lab space to move many hundreds of employees out of substandard space.

Ongoing

This has been a challenging year but also one marked by many successes—thanks to the hard work and creativity of our employees. We have an exciting future in front of us, evolving to reflect the needs of the country. By working together, we will: become more effective and efficient operationally; deliver strong performance in programmatic areas and grow where we have the special ability to make

a difference; and innovate across our scientific spectrum to meet today's and tomorrow's challenges.